A Reason to Be Thankful: We're Not Necessarily Doomed.; Climate Fwd:

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Body

Welcome to the Climate Fwd: newsletter. The New York Times climate team emails readers once a week with stories and insights about climate change. *Sign up here* to get it in your inbox.

Hi, everybody, and welcome back to the Climate Fwd: newsletter, where we are asking, *"Are we doomed?"* (Spoiler: no.)

It's an essay I wrote for the *40th anniversary of Science Times,* one of the "11 Things We'd Really Like to Know."

Although the essay expresses a guardedly optimistic view, some recent climate news has been pretty grim. For example, a new study suggests that without aggressive action to curb global warming, *climate-related crises are likely to come in bunches*. By 2100, there could be as many as six at a time in some places, "like a terror movie that is real," as the lead author of the study said.

So that does sound a little like doom. But the essay and the news article aren't in conflict. And since I wrote both of them, I'm not in conflict with myself, either. Here's why: The prospects for the planet are grim if we don't take forceful measures (*and even if we do, we'll still have problems*). But big reductions of greenhouse gases can make a difference — the difference, say, between four concurrent disasters in New York someday if we continue with business as usual, and just one at a time if we change course.

One of the ways to tackle climate change is as humble as dirt and trees. Our colleague Brad Plumer points to research that says *better conservation of forests and grasslands* in the United States could offset as much as 21 percent of the country's annual greenhouse gas emissions.

In other news, President Trump has said he will nominate Andrew Wheeler, the former coal lobbyist serving as acting administrator of the Environmental Protection Agency, to the permanent post. Lisa Friedman was interviewing him the day the news came down, and *here's her story*.

Also, California is still dealing with the deadly wildfires, which, yes, *are inextricably linked* to climate change. *And not to raking*.

One thing you can do: Leave some leaves

Speaking of raking, here's one thing you can do:

Don't.

Rake, I mean.

A perfectly manicured lawn might be a suburban ideal, but it's not the best way to help the environment.

After I *tweeted* this month about getting the leaves off my lawn — and about the fact that I couldn't lift my arms — some folks suggested that I was being a dope by raking at all. So I made some calls.

It turns out that leaving your leaves provides a terrific habitat for moths and some butterflies at various stages of their life cycles. Those pollinators will help your garden and the planet when they emerge, and many of them will become food for your neighborhood birds. The birds "need a lot of fat and protein, and caterpillars are a major source of that," said John Rowden, director of community conservation for the National Audubon Society.

The leaves also break down and nourish your lawn so that you won't need fertilizer, or as much, in the spring. If you have big, leafy trees that are going to smother your yard, you can rake away some leaves and leave the rest. Dr. Rowden said mulching mowers can reduce the mess, if you find leaf litter too unsightly to live with. Leaving at least some, whether as leaf litter, as piles in a garden section or as a compost heap, can do a lot.

There's a climate change angle, of course: you're not burning fossil fuels for mowing, leaf blowing or neighborhood collection, and by providing refuge for birds, "we are helping them cope with the effects of climate change," Dr. Rowden said.

The National Wildlife Federation has a program, "*Garden for Wildlife*," that gives tips on how to make your yard greener. David Mizejewski, a naturalist with the organization, pointed out that masses of leaves in landfills emit methane and carbon dioxide, which contribute to planetary warming.

The leaf piles on your lawn can also house amphibians like toads, which need all the help they can get. "You're building a food chain when you build a natural garden," Mr. Mizejewski said.

Dr. Rowden admitted he was not a fan of the classically perfect lawn anyway. "Nature isn't quite manicured," he said. "Nature is a little more messy."

So, neighbors, I'm not planning a second round of lawn clearing. Please pardon my mess. I'm not lazy! I'm saving the planet.

And, speaking of saving the planet, here's a follow-up to *last week's article on dishwashing*. Several readers wrote to us to point out that food scraps could be composted instead of scraped into the trash. They're absolutely correct. Those bits of food, like leaves, can do a lot. So thanks, readers.

Tofu vs. Turkey?

For many Americans, a Thanksgiving without turkey is no Thanksgiving at all. Every year in late November we serve 46 million turkeys, more than on Easter and Christmas combined.

For vegetarians, faux products like Tofurky are common alternatives. But from the perspective of greenhouse gas emissions, do vegan replacements made from soy and wheat beat out their animal counterparts?

Yes, according to David Chen, a master's student at the Potsdam Institute for Climate Impact Research. When Mr. Chen was an undergraduate at McGill University in Montreal, he assessed the environmental impacts of all the meals at the university's cafeterias. The*results were published in 2016*.

The paper didn't focus on turkey, but it did study chickens, which Mr. Chen called "kind of the ultimate efficient factory-farmed animal."

This efficiency has to do with a measurement called the feed conversion ratio, which represents how much food you have to give an animal to produce a given quantity of meat. A completely efficient animal would turn one pound of grain into one pound of meat, for a ratio of 1:1.

"The reality right now for chickens is around 1.5," Mr. Chen said.

For turkeys the ratio is closer to two pounds of fodder per pound of meat, which makes turkeys less efficient than chickens, and the related emissions higher.

Chickens release three to 16 times more greenhouse gas emissions per pound than soy products. So that means a tofu-based alternative could have a far smaller carbon footprint than poultry.

There are some caveats. The study focused on equal weights, comparing, say, a pound of turkey to a pound of soy. But it didn't take calories into consideration. A pound of turkey has about 862 calories compared to 344 for tofu, so in theory you'd be eating less of the turkey.

And depending on how they're raised, the carbon footprint of chickens can be on par with that of rice, or tomatoes and peppers raised in greenhouses. It's also about 2.5 times less than the footprint of cheese.

Chickens also require less water than soy, Mr. Chen said.

Whether you cook an actual turkey, a Tofurky or something different altogether, hold onto your leftovers. According to the Food and Agriculture Organization of the United Nations, if food waste were a country *it would be the third-largest emitter of greenhouse gases* in the world.

In the United States, *about 40 percent of the food that gets wasted is thrown out by consumers*, so if you want to enjoy a traditional Thanksgiving with less guilt, *eat your leftovers*. The New York Times Cooking editors have *assembled a few recipes* to help you do just that.

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